Threat Air Defense at the Crossroads

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Applying Lessons Learned... Adoptive and Adaptive

Current ADA Strategies

Defensive in nature

Protect homeland

Concentrated on fixed sites

Emerging ADA Strategies

Offensive in nature

Redundant C3I

Two tiered approach- regional and US/West

Dispersed, Integrated, distributed and decentralized engage

Mixed automated and manual tracking-- win war of weath

Maximum use of urban and complex terrain

Air Defense not tied to facilities...Air Defense Ambush

TBM/Cruise to deny APOD's/SPOD's

Pattern analysis

Less dependence on fast movers

- •Weather creates sanctuaries
  - Lasers / EO can't target what they can't see
- •Dispersion is a combat multiplier
- •Use decoys
  - Set the conditions for ambushes
- •Find Counters for GPS
- •Destroy flagship systems
- •Information War as important as fighting
  - inaccurate targeting
  - Civilians on battlefield
- •Air War first line of engagement
  - Know and understand US tactics

Desert Storm

Compiling Lessons Learned

Somalia

Allied Force

Chechnya

Current ADA Capabilities

Standardized Layout and Doctrine

Centralized Control and Engagement

Generally older systems --but several (<10) highly sophisticated

Niche proliferation

Emerging ADA Capabilities

Multispectral sensor integration

NOE/OTH Radar capability

Integration of gun and missile batteries

Longer range radar

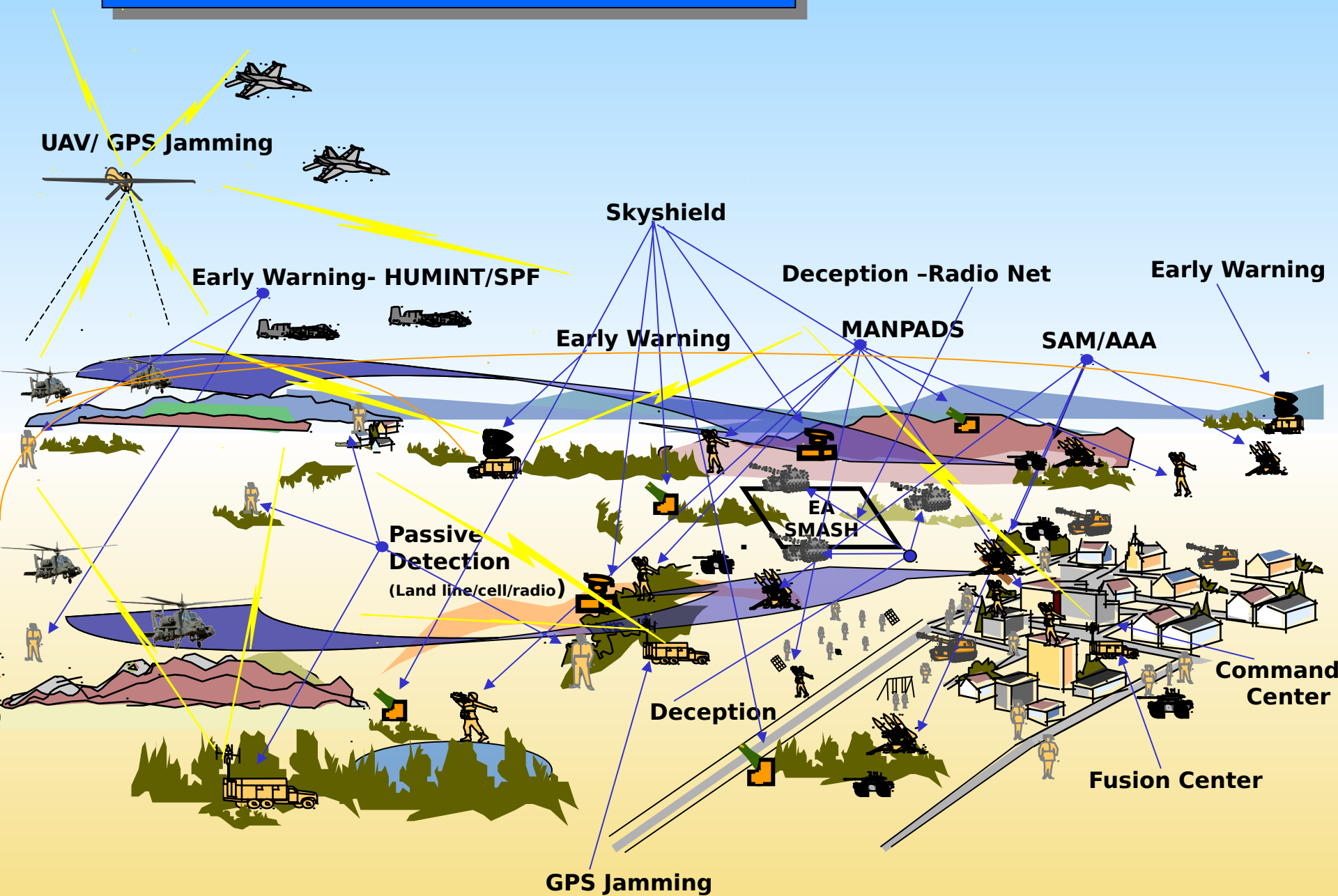Advanced munitions

Enhanced targeting

Helicopter (air to air)

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Continued improvements in sophisticated AD systems will present significant survivability and operational challenges to U.S. Army Aviation

Threat Air Defense at the Crossroads

Cell/GPS Comms
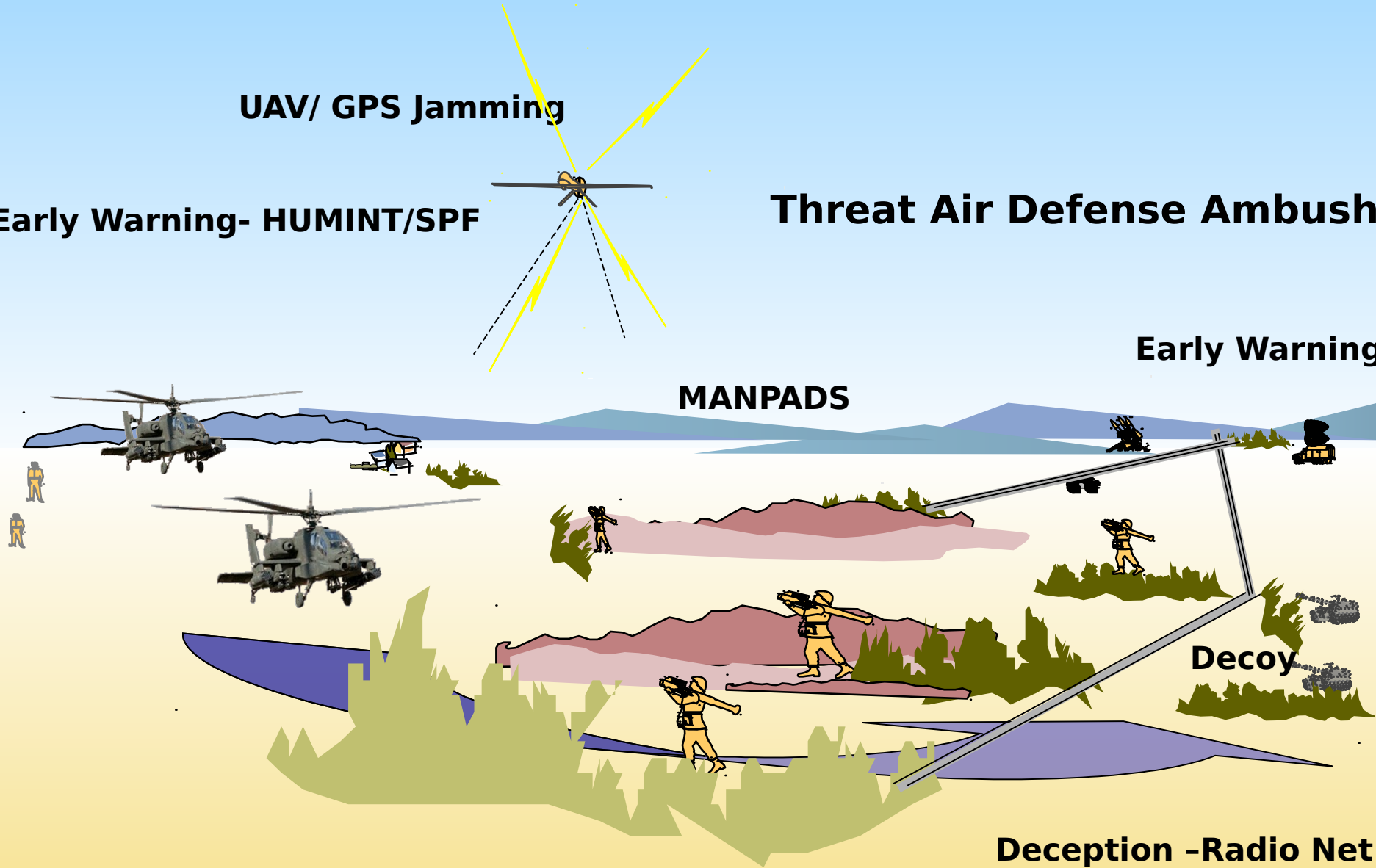
UAV/ GPS Jamming

Skyshield

Early Warning- HUMINT/SPF

Deception –Radio Net

Early Warning

MANPADS

SAM/AAA

Early Warning

Passive Detection

(Land line/cell/radio)

EA SMASH

Deception

Command Center

Fusion Center

GPS Jamming

Armed Reconnaissance Role

UAV/ GPS Jamming

Early Warning- HUMINT/SPF

Threat Air Defense Ambush

MANPADS

Early Warning

Decoy

Deception –Radio Net

Information Superiority Role
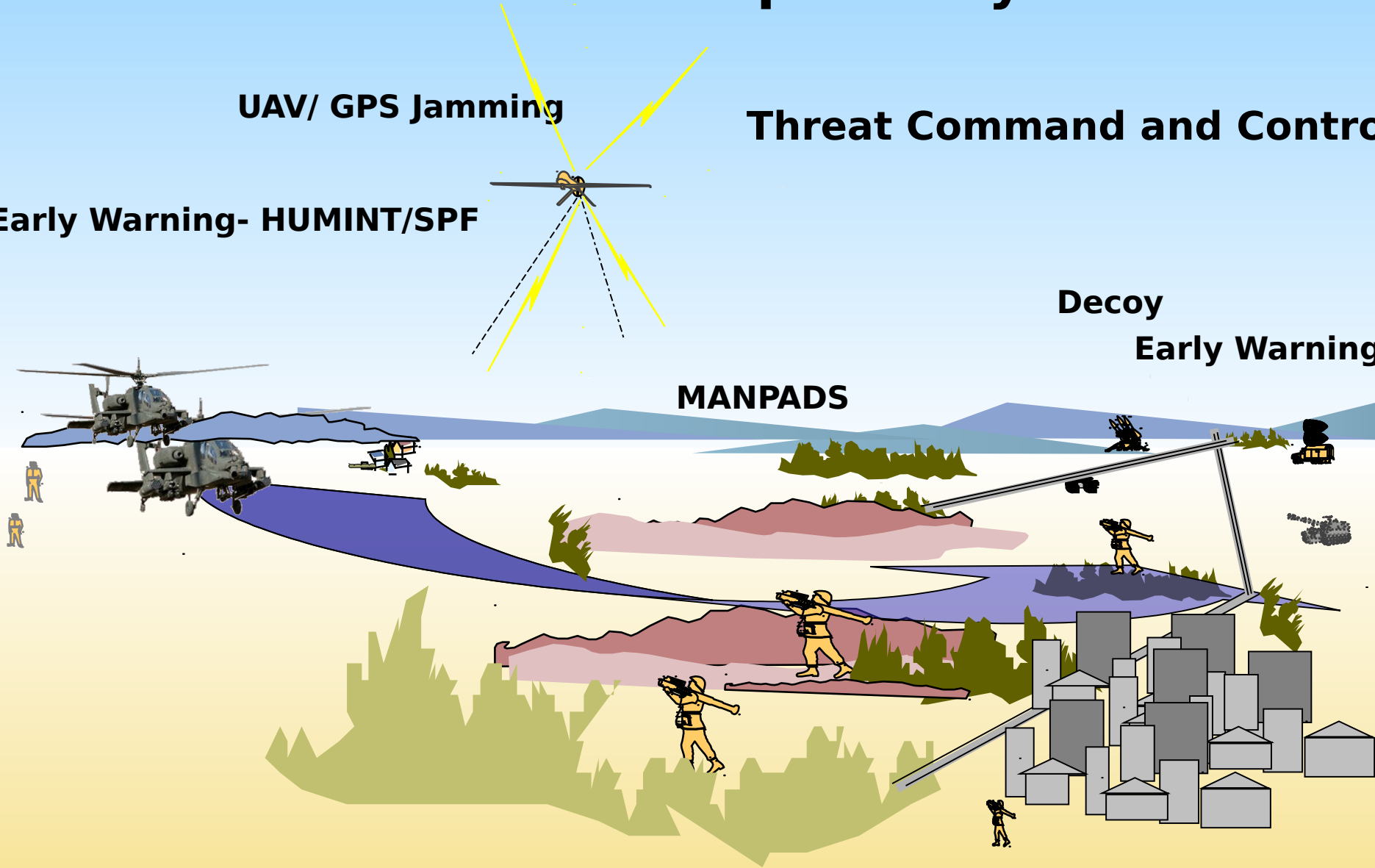
UAV/ GPS Jamming

Threat Command and Contro

Early Warning- HUMINT/SPF

Decoy

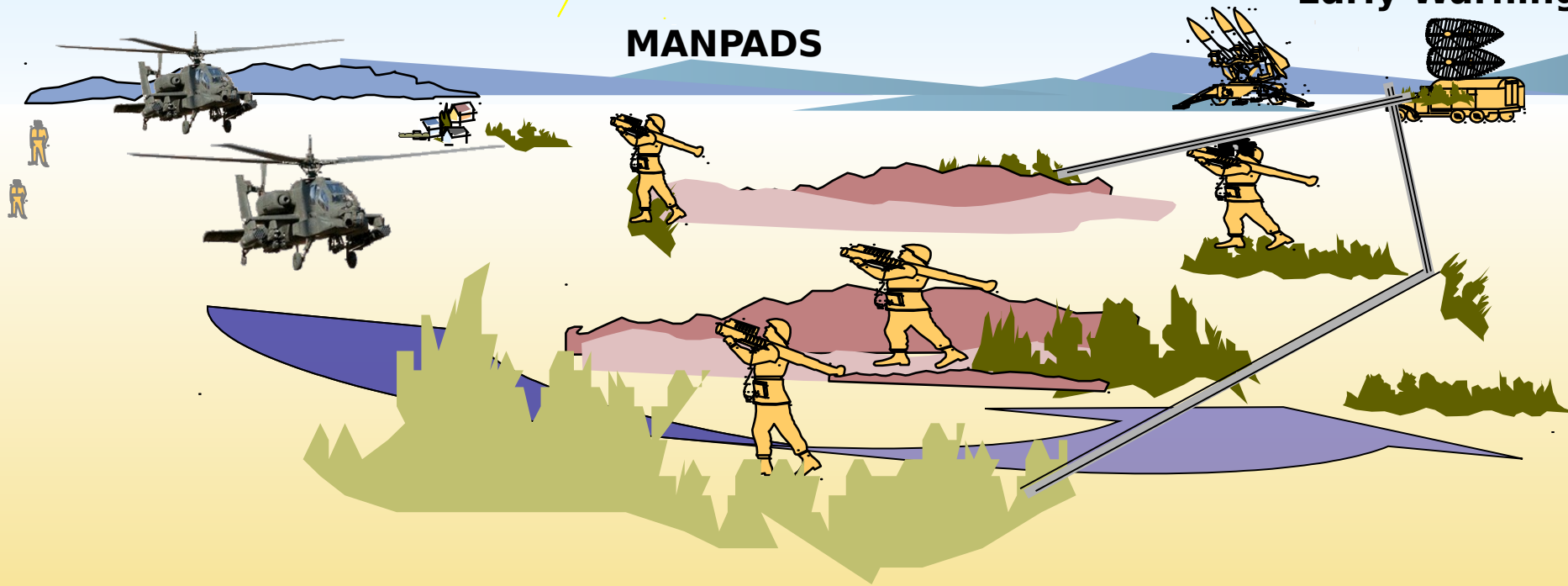Early Warning

MANPADS

Deception –Radio Net

Deep Attack Role
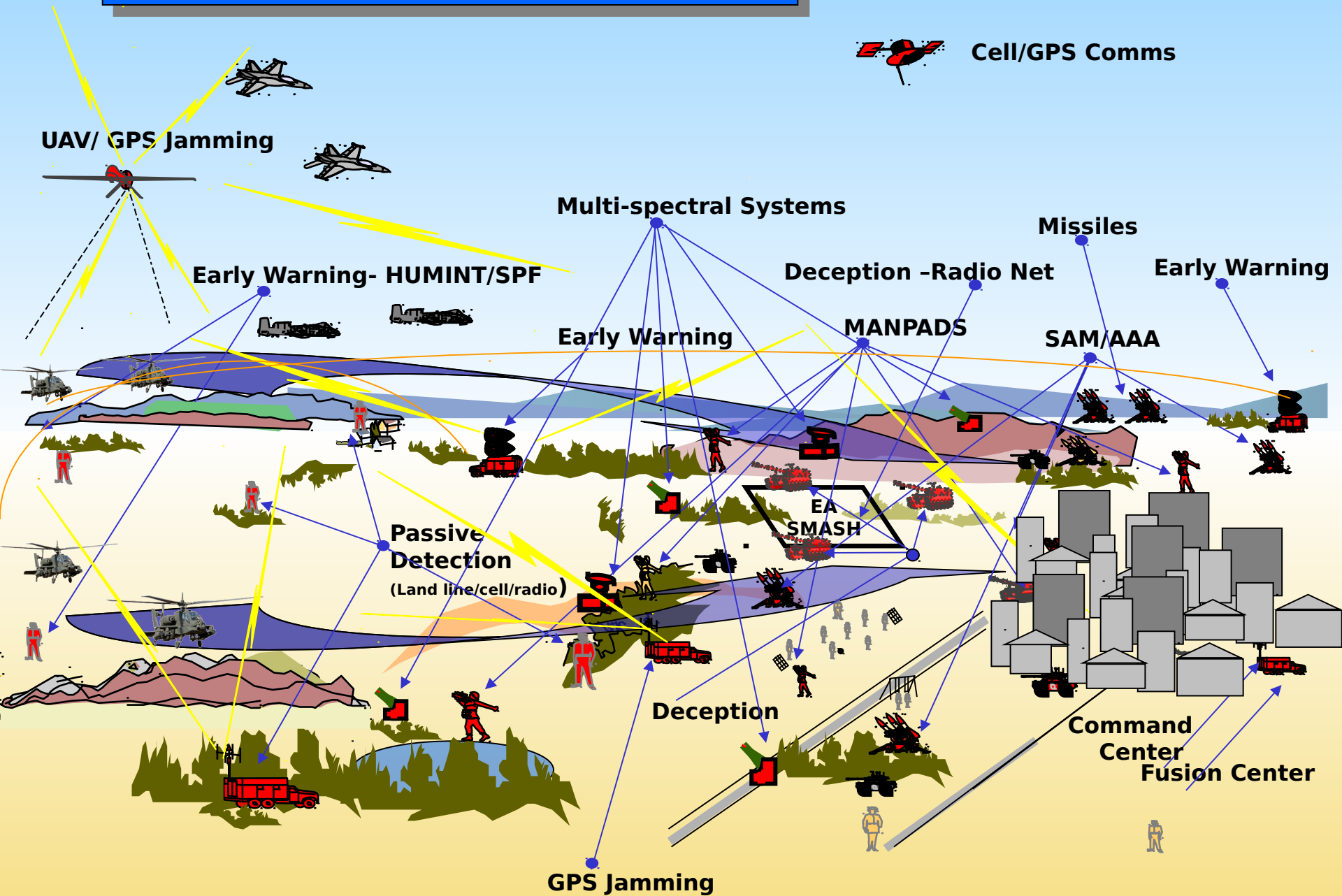
UAV/ GPS Jamming

Threat Air Defense System Protec

Early Warning- HUMINT/SPF

MANPADS

Early Warning

Threat Air Defense

Armed Reconnaissance Role

Allows Commander Unimpeded and Rapid Movement Throughout Battlespace

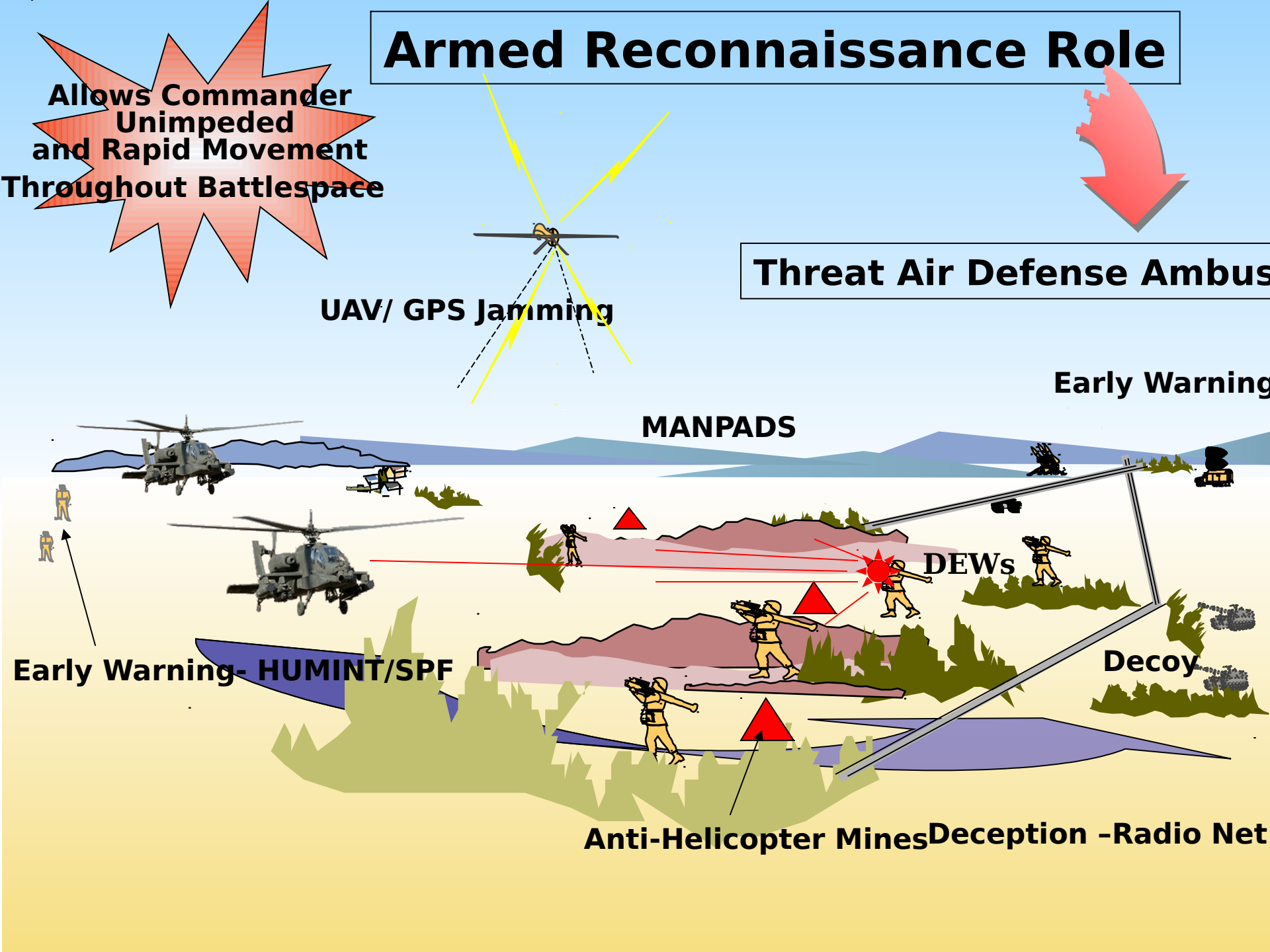**UAV/ GPS Jamming**

Threat Air Defense Ambus

Early Warning

MANPADS

DEWs

Early Warning- HUMINT/SPF

Decoy

Anti-Helicopter Mines **Deception –Radio Net**

Close Operations Role

Gain Information Superiority and SA Deny Enemy IO
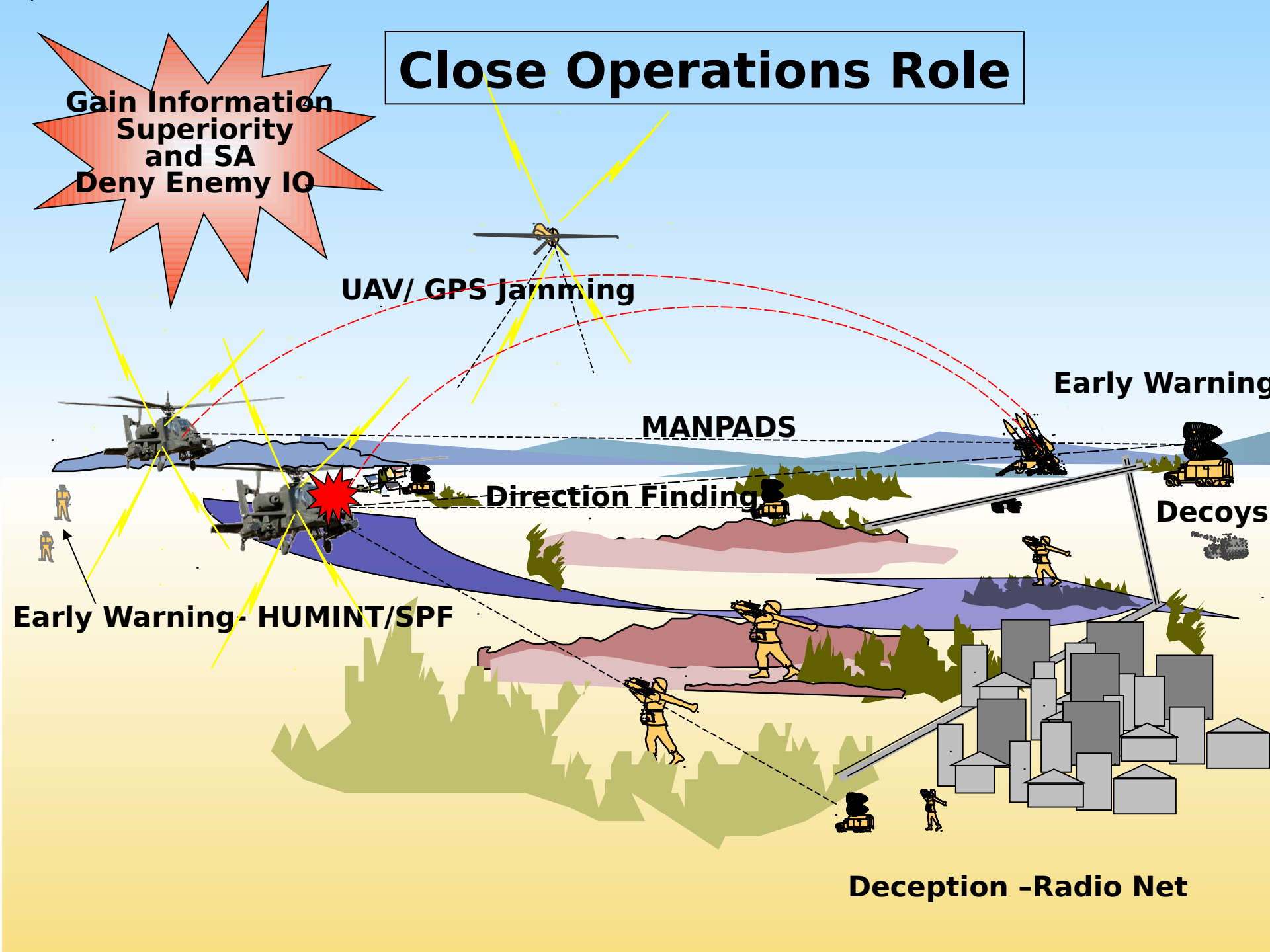
UAV/ GPS Jamming

Early Warning

MANPADS

Direction Finding

Decoys

Early Warning- HUMINT/SPF

Deception –Radio Net

Deep Attack Role

Fleeting Enemy, Maximizes CCD, Minimal Time to React, Uses IADS

UAV/ GPS Jamming

Threat Air Defense System Protec

MANPADS

Early Warning

DEWs

Early Warning- HUMINT/SPF

Decoys

Anti-Helicopter Mines Deception –Radio Net